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**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE BEFORE THE  
BOARD OF PATENT APPEALS AND INTERFERENCES**

In re Application of: Donald Henry Willis

Serial No.: 09/904,022

Confirmation No.: 1946

Filed: July 12, 2001

For: **METHOD AND SYSTEM FOR  
MODIFYING VIDEO SIGNALS BY  
CONVERTING NON-INTRA PICTURES**

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Group Art Unit: 2621

Examiner: Nigar Chowdhury

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I hereby certify that this correspondence is being deposited on <u>2/7/07</u> with the United States Postal Service as First Class Mail in an envelope addressed to: Commissioner for Patents, P.O. Box 1450 Alexandria, VA 22313-1450.	
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**APPEAL BRIEF**

Dear Sir:

Appellant submits this Appeal Brief to the Board of Patent Appeals and Interferences on appeal from the decision of the Examiner of Group Art Unit 2621 dated August 10, 2006, finally rejecting claims 1-10.

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**Real Party in Interest**

The real party in interest is Thomson Licensing.

**Related Appeals and Interferences**

Appellant asserts that no other appeals or interferences are known to the Appellant, the Appellant's legal representative, or assignee which will directly affect or be directly affected by or have a bearing on the Board's decision in the pending appeal.

**Status of Claims**

Claims 1-10 were originally presented with the filed application. Subsequently claims 1, 3, 5, 6 and 8-10 were amended in a Response submitted on May 18, 2006 to more clearly point out the invention of the Appellant and to correct formality errors pointed out by the Examiner. Claims 1-10 stand finally rejected under 35 U.S.C. § 102 as being anticipated by Boyce (US Patent No. 5,726,711).

### **Status of Amendments**

A first response was filed on May 18, 2006 to overcome a First Office Action dated February 22, 2006. In the First Office Action, the Examiner rejected the Appellant's claims 1-10 under 35 U.S.C. § 102(b) as being anticipated by Boyce (US Patent No. 5,726,711). The Examiner also objected to the Appellant's claims 1-5 and 9-10 for reasons of formality. In the response filed on May 18, 2006, the Appellant amended claims 1, 3, 5, 6 and 8-10 to correct for the formality errors pointed out by the Examiner and set forth arguments traversing the rejections issued by the Examiner and distinguishing the Appellant's invention over the cited prior art.

A second response was filed on November 02, 2006 to overcome a Final Office Action dated August 10, 2006. In the Final Office Action, the Examiner again rejected the Appellant's claims 1-10 under 35 U.S.C. § 102(b) as being anticipated by Boyce (US Patent No. 5,726,711). In the response filed on November 02, 2006, the Appellant set forth further arguments traversing the rejections issued by the Examiner and distinguishing the Appellant's invention over the cited prior art.

The Examiner responded to the Appellant's response of November 02, 2006 with an Advisory Action dated December 01, 2006. In the Advisory Action, the Examiner indicated that the response dated November 02, 2006 does NOT place the application in condition for allowance because all arguments fail to be persuasive. In response to the Advisory Action dated December 01, 2006, the Appellant submitted a Notice of Appeal dated December 11, 2006.

The claims on appeal are those of the Appellant's response filed on May 18, 2006, which are the same as in the Appellant's response filed on November 02, 2006. That is, the claims on appeal are the Appellant's claims 1-10, which are listed in the attached Appendix.

### **Summary of Claimed Subject Matter**

The invention of the Appellant provides a method and system for recording onto a storage medium a video segment. The Appellant teaches that in one embodiment, a method includes the steps of: receiving the video segment in which the video segment contains at least one predictive picture; and selectively converting the at least one predictive picture into an intra picture thereby replacing the at least one predictive picture with the intra picture. In one arrangement, the video segment can contain at least one introductory predictive picture, and the converting step can further include the step of selectively decoding a predetermined number of the introductory predictive pictures to obtain a properly decoded predictive picture. In addition, a portion of each introductory predictive picture can contain intra macroblocks, and the predetermined number can be based in part on the amount of intra macroblocks in each introductory predictive picture.

The Appellant further teaches that in another embodiment, the video segment can contain at least one subsequent predictive picture, and the converting step can further include the steps of selectively decoding subsequent predictive pictures and selectively re-encoding into intra pictures the subsequent predictive pictures, the introductory predictive pictures or a combination thereof. In one aspect of the above method, the video segment can be an MPEG video segment that does not contain any intra pictures. The Appellant's invention also includes a system for recording onto a storage medium a video segment. In one embodiment the system includes a receiver for receiving the video segment in which the video segment contains at least one predictive picture and a video processor programmed to selectively convert the at least one predictive picture into an intra picture thereby replacing the at least one predictive picture with the intra picture. The system of the Appellant's invention also includes suitable software and circuitry to implement the method of the Appellant's invention as described above.

As suggested in MPEP 1206, the Appellant now reads at least two of the broadest appealed claims on the specification and on the drawings. It should be understood, however, that the appealed claims may read on other portions of the specification or other figures that are not listed below.

With regards to a first embodiment, the Appellant's Specification specifically refers to FIG. 1 for teaching an embodiment of a system/device 10 for implementing the various advanced operating features of the Appellant's inventive arrangements. With reference to FIG. 1, the Appellant teaches that a system/device 10 can include a controller 24 for reading data from and writing data to a storage medium 26. The device 10 of the Appellant's invention can also have a control central processing unit (CPU) 14. Control and data interfaces can also be provided for permitting the control CPU 14 to control the operation of an encoder 20, a decoder 18, a searching engine 16 and the controller 24. Even further, suitable software or firmware can be provided in memory for the conventional operations performed by control CPU 14. Further, program routines can be provided for controlling CPU 14.

The Appellant teaches that in operation, a video signal containing one or more predictive pictures can enter a receiver or buffer 12. The P pictures in this video signal can contain a number of I and non-I macroblocks. From the buffer 12, the video signal can be sent to the searching engine 16 and then the encoder 20. Meanwhile, the control CPU 14 can signal the decoder 18 to selectively decode a number of the pictures in the video signal. In the invention of the Appellant, the I and non-I macroblocks from the initial P pictures in the video signal can be used to obtain a properly decoded P picture, which can then be used to decode one or more subsequent P pictures in the video signal. The encoder of the invention of the Appellant 20 can then re-encode one or more of the initial P pictures and/or the subsequent P pictures into I pictures.

The Appellant teaches that to locate the P pictures to be decoded and/or re-encoded, the searching engine 16 can search the video signal by locating each picture's start code. Once a start code is located, the searching engine 16 can signal the control CPU 14. The control CPU 14 can then determine whether the picture is



an I, B or P picture by focusing on that particular picture's start code. The control CPU 14 can then signal the decoder 18 to decode the appropriate number of P pictures; similarly, the control CPU 14 can signal the encoder 20 to re-encode any number of the decoded P pictures into an I picture thereby replacing one or more P pictures with an I picture and creating a modified video signal. Once modified, the video signal can be sent to the record buffer 22 where the signal can be temporarily stored. From the record buffer 22, the signal can be received by the controller 24 and then recorded onto the storage medium 26.

Furthermore, and with regards to at least a second embodiment of the Appellant's invention, the Appellant refers to FIG. 2. More specifically, the embodiment of FIG. 2 illustrates a flowchart 200 that demonstrates one way in which video containing P pictures with I macroblocks - typically, a signal with no I pictures - can be modified for optimal trick mode performance. The embodiment of the method of FIG. 2 begins at step 210, in which a video signal containing at least one P picture can be received. The Appellant further teaches an example of a typical video sequence contained in such a signal, which was taught to be represented as follows:

SH B<sub>0</sub> B<sub>1</sub> P<sub>2</sub> B<sub>3</sub> B<sub>4</sub> P<sub>5</sub> B<sub>6</sub> B<sub>7</sub> P<sub>8</sub> B<sub>9</sub> B<sub>10</sub> P<sub>11</sub> B<sub>12</sub> B<sub>13</sub> P<sub>14</sub>

As shown, the example contains only non-I pictures (P and B pictures) and does not contain any I pictures. A portion of each P picture is typically encoded with I macroblocks. The Appellant teaches that during normal playback, the pictures in the sequence can be constructed from the macroblocks, both I and non-I macroblocks, in the P pictures. The Appellant further teaches that encoding approximately twenty percent of each P picture with I macroblocks and placing two B pictures between P pictures in a signal containing no I pictures works well. The Appellant notes, however, that those skilled in the art will appreciate that other video sequences lacking I pictures are also commonly used and may be considered typical and that in fact, any video signal that contains at least one P picture can be modified in accordance with the Appellant's inventive arrangements.

In the invention of the Appellant, the pictures in the typical video sequence depicted above can represent progressive frames, non-progressive frames or field

pictures, as the invention is not limited to any particular picture format. The symbol "SH" stands for sequence header, which is a header that contains decoding information about the particular video sequence to which it is assigned. The Appellant further noted, however, that the invention is not limited to such an arrangement, as the invention can be practiced with video sequences that do not have sequence headers.

In the method of the Appellant, at step 212, once a video signal is received, one or more of the P pictures contained in the signal can be decoded until a properly decoded P picture is obtained. In one arrangement, the number of the P pictures to be decoded can depend on the amount of I macroblocks in the P pictures. The Appellant teaches that as an example, in the video sequence reproduced above, the five P pictures - P<sub>2</sub>, P<sub>5</sub>, P<sub>8</sub>, P<sub>11</sub> and P<sub>14</sub> - can be decoded, which can result in picture P<sub>14</sub> being properly decoded. As taught by the Appellant, five P pictures can be used to properly decode a P picture because generally a separate portion (approximately twenty percent) of each P picture in the typical video sequence is comprised of I macroblocks. The Appellant noted, however, that the invention is not limited to the preceding example, as any other suitable number of P pictures can be decoded for purposes of obtaining a properly decoded P picture. For instance, these initial P pictures can contain different percentages of I macroblocks.

In the invention of the Appellant, once a properly decoded P picture is obtained from decoding the introductory P pictures, the properly decoded P picture can be used to decode selectively one or more subsequent P pictures in the video signal, as shown in step 214. In one arrangement, it is preferable that all the subsequent P pictures be decoded; however, the invention is not limited in this regard, as any other suitable number of subsequent P pictures can be decoded. In another arrangement, if one or more P pictures are skipped once a properly decoded P picture is acquired, *i.e.*, less than all the P pictures in the video segment are decoded, one or more P pictures following the skipped P picture(s) can be used to create another properly decoded P picture for purposes of decoding the subsequent P pictures. The P pictures following the skipped P picture that are used to construct

another properly decoded P picture can be referred to as introductory P pictures as well.

At step 216 of the method of the invention of the Appellant, once the desired number of subsequent P pictures are decoded, one of more of the selectively decoded subsequent P pictures can be re-encoded into an I picture. In another arrangement, however, one or more of the introductory P pictures used for purposes of obtaining the properly decoded P picture can also be re-encoded into an I picture. In either arrangement, the I picture can replace the original P picture in the video signal. The Appellant presented the following sequence an example of the above described process:

SH B<sub>0</sub> B<sub>1</sub> I<sub>2</sub> B<sub>3</sub> B<sub>4</sub> P<sub>5</sub> B<sub>6</sub> B<sub>7</sub> P<sub>8</sub> B<sub>9</sub> B<sub>10</sub> P<sub>11</sub> B<sub>12</sub> B<sub>13</sub> P<sub>14</sub>

As shown in the sequence above, introductory P picture P<sub>2</sub> has been re-encoded into I picture I<sub>2</sub>. The Appellant noted, however, that the invention is not limited to this example or to any particular re-encoding algorithm, as any number of introductory or subsequent P pictures can be re-encoded into an I picture.

In the invention of the Appellant, once the video signal is modified, it can be recorded onto a storage medium in accordance with step 218. The Appellant teaches that re-encoding into I pictures one or more of the introductory P pictures, one or more of the subsequent P pictures or a combination thereof can eliminate the delay in obtaining a properly decoded P picture, as the video signal now contains one or more I pictures for purposes of constructing the remaining pictures in the video.

For the convenience of the Board of Patent Appeals and Interferences, Appellant's pending claims are presented below in claim format with elements read on the drawings and appropriate citations to at least one portion of the specification for each element of the appealed claims (with reference numerals added).

Claim 1 positively recites (with reference numerals added, where applicable):

1. A method (200) of recording onto a storage medium a video segment, comprising the steps of:

receiving (210) said video segment, wherein said video segment contains at least one predictive picture containing intra macroblocks; and selectively converting (212, 214, 216) said at least one predictive picture into an intra picture thereby replacing said at least one predictive picture with said intra picture in said video segment. (See Appellant's specification, page 9, line 9 through page 12, line 14).

Claim 2 positively recites:

2. The method according to claim 1, wherein said video segment contains at least one introductory predictive picture and said converting step further comprises the step of selectively decoding a predetermined number of said introductory predictive pictures to obtain a properly decoded predictive picture. (See Appellant's specification, page 11, lines 5-22).

Claim 3 positively recites:

3. The method according to claim 2, wherein said predetermined number is based in part on the amount of said intra macroblocks in said introductory predictive pictures. (See Appellant's specification, page 10, lines 15-18).

Claim 4 positively recites:

4. The method according to claim 2, wherein said video segment contains at least one subsequent predictive picture and said converting step further comprises the steps of:  
selectively decoding said subsequent predictive pictures; and  
selectively re-encoding into intra pictures predictive pictures selected from the group comprising said subsequent predictive pictures or said introductory predictive pictures. (See Appellant's specification, page 11, line 20 through page 12, line 1).

Claim 5 positively recites:

5. The method according to claim 1, wherein said video segment is an MPEG video segment that does not contain any intra pictures. (See Appellant's specification, page 1, lines 15-17 and page 6, lines 14-15 and page 9, lines 12-14).

Claim 6 positively recites:

6. A system (10) for recording onto a storage medium (26) a video segment comprising:  
a receiver (12) for receiving said video segment, wherein said video segment contains at least one predictive picture containing intra macroblocks;  
and  
a video processor (14) programmed to selectively convert said at least one predictive picture into an intra picture thereby replacing said at least one predictive picture with said intra picture in said video segment. (See Appellant's specification, page 5, line 15 through page 8, line 18).

Claim 7 positively recites:

7. The system according to claim 6, wherein said video segment contains at least one introductory predictive pictures and said video processor is further programmed to selectively decode a predetermined number of said introductory predictive pictures to obtain a properly decoded predictive picture. (See Appellant's specification, page 11, lines 5-22).

Claim 8 positively recites:

8. The system according to claim 7, wherein said predetermined number is based in part on the amount of said intra macroblocks in said introductory predictive pictures. (See Appellant's specification, page 10, lines 15-18).

Claim 9 positively recites:

9. The system according to claim 7, wherein said video segment contains at least one subsequent predictive picture and said video processor is further programmed to selectively decode said subsequent predictive pictures and selectively re-encode into intra pictures predictive pictures selected from the group comprising said subsequent predictive pictures or said introductory predictive pictures. (See Appellant's specification, page 11, line 20 through page 12, line 1).

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Claim 10 positively recites:

10. The system according to claim 6, wherein said video segment is an MPEG video segment that does not contain any intra pictures. (See Appellant's specification, page 1, lines 15-17 and page 6, lines 14-15 and page 9, lines 12-14).

**Grounds of Rejections to be Reviewed on Appeal**

1. Whether the Appellant's claims 1-10 are patentable under 35 U.S.C. § 102(b) in view of Boyce (US Patent No. 5,726,711).
  
2. Pending claims 1-10 have been grouped together by the Examiner in their rejection. Appellant urges that each of the rejected claims stands on its own recitation, the claims being considered to be separately patentable for the reasons set forth in more detail *infra*.

**ARGUMENT**

**I. THE EXAMINER ERRED IN REJECTING CLAIMS 1-10 UNDER 35 U.S.C. § 102 BECAUSE THE CITED REFERENCE FAILS TO TEACH, SUGGEST OR ANTICIPATE AT LEAST A METHOD AND SYSTEM FOR RECORDING ONTO A STORAGE MEDIUM A VIDEO SEGMENT INCLUDING AT LEAST "SELECTIVELY CONVERTING SAID AT LEAST ONE PREDICTIVE PICTURE INTO AN INTRA PICTURE THEREBY REPLACING SAID AT LEAST ONE PREDICTIVE PICTURE WITH SAID INTRA PICTURE IN SAID VIDEO SEGMENT".**

**A. 35 U.S.C. § 102(b) - Claim 1**

The Examiner rejected claim 1 under 35 U.S.C. § 102(b) as being anticipated by Boyce (U.S. Patent No. 5,726,711). The rejection is respectfully traversed.

The Examiner alleges that regarding claim 1, Boyce teaches a method of recording onto a storage a video segment including all of the elements of the Appellant's invention. The Appellant respectfully disagrees.

The Appellant respectfully submits that Boyce absolutely fails to teach, suggest or anticipate the invention of the Appellant, at least with respect to independent claim 1, which specifically recites:

"A method of recording onto a storage medium a video segment, comprising the steps of:

receiving said video segment, wherein said video segment contains at least one predictive picture containing intra macroblocks; and

selectively converting said at least one predictive picture into an intra picture thereby replacing said at least one predictive picture with said intra picture in said video segment."

The invention of the Appellant is directed at least in part to a method and system for recording a video segment onto a storage medium including converting non-intra pictures into intra-pictures. One embodiment of the Appellant's invention includes decoding at least one predictive picture in a received video segment and using the macroblock information of the decoded predictive picture to selectively re-



encode at least one of the predictive pictures in the video segment into an intra picture. The re-encoded predictive picture is then replaced by the determined intra picture in the video segment.

In the Appellant's Specification, the Appellant teaches that a received video signal may be made up of video sequences containing a predetermined number of non-I pictures. The Appellant further teaches that in such a video signal, a portion of at least one P picture is typically encoded with I macroblocks. In accordance with an embodiment of the Appellant's invention, during normal playback, the pictures in the sequence can be constructed from the macroblocks, both I and non-I macroblocks, in the P pictures. That is, the Appellant teaches that, in accordance with the present invention, the I macroblock information and also the non-I macroblocks of a number of P pictures are implemented to properly decode a P picture and that subsequent pictures can be decoded using the properly decoded P-picture. The Appellant further teaches that a P-picture in the video signal can then be re-encoded into an I picture in the video signal using the information in the decoded P-pictures.

Specifically, in claim 1, the Appellant specifically claims "selectively converting said at least one predictive picture into an intra picture thereby replacing said at least one predictive picture with said intra picture in said video segment." The Appellant respectfully submits that Boyce absolutely fails to teach, suggest or anticipate at least "selectively converting said at least one predictive picture into an intra picture thereby replacing said at least one predictive picture with said intra picture in said video segment" as taught in the Appellant's Specification and claimed in at least the Appellant's claim 1.

That is, the Examiner cites Boyce for teaching all of the aspects of the Appellant's invention at least with respect to the Appellant's independent claim 1. The Appellant respectfully disagrees. The Appellant respectfully points out to the Examiner that Boyce teaches a method and apparatus for generating a fully intra-coded video frame from a received progressive refresh bitstream representing a series of inter-coded video frames. In the invention of Boyce, intra-coded macroblocks of received video frames are identified, selected, processed and stored

to facilitate later combination into a single fully intra-coded composite video frame suitable for use during VTR trick play operation. (See Boyce, Abstract). That is, in contrast to the invention of the Appellant at least with respect to claim 1, Boyce specifically recites:

"Each fully intra-coded video frame output by the frame forming circuit 18 is supplied to the input of the video frame selection circuit 20. The video frame selection circuit 20 selects, as a function of the video frame indicator signal output by the syntax parser, when the fully intra-coded video frame generated by the frame forming circuit 18 is to be used during each of a plurality of different trick play speeds of operation, e.g., 3 times, 9 times and 27 times fast forward or reverse speeds of operation, and outputs these frames, e.g., via the corresponding outputs. For example, every time the video frame selection circuit determines that three video frames have been received by the syntax parser 12, e.g., by counting that the video frame indicator signal has been asserted three times since the last time a video frame was supplied to the 3 times speed output, the video frame selection circuit outputs the frame generated by the frame forming circuit 18. Similarly, the video frame selection circuit may output one frame to the 9 times output every nine times the video frame indicator signal is asserted.

In an alternative embodiment when the average time of a video frame is known, the video frame selection circuit uses the video frame indicator signal as a synchronization signal and supplies frames generated by the frame forming circuit 18 to the different speed outputs as a function of the amount of time that passes. (See Boyce, column 8, lines 13-37).

That is, in Boyce a video frame selection circuit selects, as a function of a video frame indicator signal output by a syntax parser, when a fully intra-coded video frame generated by a frame forming circuit is to be used during each of a plurality of different trick play speeds of operation. In contrast, the invention of the Appellant teaches and claims "replacing said at least one predictive picture with said intra picture in said video segment". That is, in the Specification, the Appellant specifically recites:

"At step 216, once the desired number of subsequent P pictures are decoded, one or more of the selectively decoded subsequent P pictures can be re-encoded into an I picture. In another arrangement, one or more of the introductory P pictures used for purposes of obtaining the properly decoded P picture can also be re-encoded into an I picture. In either arrangement, the I picture can replace the original P picture in the video signal." (See Appellant's Specification, page 11, line 20 through page 12, line 2).

That is, in the invention of the Appellant at least with respect to claim 1, a predictive picture is replaced in the video segment with a respectively converted intra picture. In contrast to the invention of the Appellant at least with respect to claim 1, in Boyce a predictive picture is not replaced in the video signal with an intra picture. Instead, in Boyce a video frame selection circuit provides intra-coded video frames generated by the frame forming circuit 18 to be used during each of a plurality of different trick play speeds of operation. In fact, Boyce further specifically teaches:

"The fully intra-coded digital video frames output via the various speed outputs of the video frame selection circuit can be supplied to one or more buffers prior to recording on a tape in specific tape locations which are arranged to be read during VTR trick play operation when the VTR operates at the specific speeds and directions of trick play for which the data frames are selected." (See Reference 1, col. 8, lines 50-56).

That is, Boyce teaches that fully intra-coded digital video frames output via the various speed outputs of the video frame selection circuit are each separately recorded on a tape in specific and different tape locations which are arranged to be read during VTR trick play operation when the VTR operates at the specific speeds and directions of trick play for which the data frames are selected. This is in direct contrast to the invention of the Appellant, at least with respect to independent claim 1, which specifically teaches and claims "replacing said at least one predictive picture with said intra picture in said video segment".

In further detail, Boyce teaches a method and apparatus for generating a fully intra-coded video frame from a received progressive refreshed bit stream representing a series of inter-coded video frames. Intra-coded macroblocks of received video frames are identified, selected, processed and stored to facilitate later combination into a single fully intra-composite video frame suitable for use during VTR trick play operation (see Boyce, abstract). Column 8, lines 13 to 37 of Boyce, discloses: "Each fully intra-coded video frame output by the frame forming circuit 18 is supplied to the input of the video frame selection circuit 20. The video frame

selection circuit 20 selects, ... when the fully intra-coded video frame generated by the frame forming circuit 18 is to be used ... “.

In contrast to the teachings of Boyce, the Appellant's invention teaches and claims the use of a **single video segment**. In that video segment, the one predictive picture is replaced with the intra picture. The Examiner however argues that the technical feature of "single video segment" is not in the Appellant's claim and as such the technical feature can not be used for the purposes of avoiding prior art. The Appellant respectfully disagrees.

It should be noted that in at least the Appellant's claim 1, the Appellant specifically recites and claims a method of recording onto a storage medium a (meaning one or single) video segment including receiving the one video segment which contains at least one predictive picture containing intra macroblocks and replacing the predictive picture with a converted intra picture in the one video segment. As such, the Appellant respectfully disagrees with the Examiner that the technical feature of "single video segment" is not in the Appellant's claim and as such the technical feature can not be used for the purposes of avoiding prior art.

In contrast to the invention of the Appellant, Boyce discloses the use of a **plurality** of video segments. The received progressive refreshed bit stream is not **selectively converted**, as claimed in the independent claims of the present application. Rather, data for generating the fully intra-coded frames are **extracted** in Boyce (see column 4, line 2, of Boyce). The fully intra-coded video frame is therefore not a modified video segment as in the present application. Rather, in Boyce it results from selection of some intra-macroblocks from the bit stream (see column 4, lines 34 to 38, of Boyce).

More specifically, on pages 1 to 3 of the Appellant's Specification, the related art is described. As pointed out on page 3, beginning at line 8, prior art solutions using a plurality of video frames (as in Boyce) can cause delays during a trick mode. That is, Boyce teaches fully intra-coded video frames for the trick modes using a plurality of video frames for the trick modes.

In contrast to Boyce, it is an object of the Appellant's invention to make use of a single video segment and to enhance the performance in trick modes using a single video segment. That is, in the invention of the Appellant, a single incoming video segment is received and at least one predictive picture in the video segment is selectively converted, thereby obtaining a modified video segment, i.e. a video segment in which the at least one predictive picture is replaced with the intra picture.

Boyce instead makes use of a plurality of video frames and there is absolutely no teaching, suggestion or disclosure in Boyce for using a single video segment only. As such, the Appellant submits that there is absolutely no teaching, suggestion or disclosure in Boyce for "selectively converting said at least one predictive picture into an intra picture thereby replacing said at least one predictive picture with said intra picture in said video segment" as taught in the Appellant's Specification and claimed by at least the Appellant's claim 1.

As such, the Appellant respectfully submits that the teachings and disclosure of Boyce fail to teach, suggest or disclose each and every element of the Appellant's claim 1 as required for anticipation. Therefore, the Appellant submits that for at least the reasons recited above, independent claim 1 is not anticipated by the teachings of Boyce and, as such, fully satisfies the requirements of 35 U.S.C. § 102 and is patentable thereunder.

B. 35 U.S.C. § 102(b) - Claim 2

Claim 2 depends directly from independent claim 1 and recites further technical features thereof. At least because teachings of Boyce fail to teach, suggest or anticipate the invention of the Appellant with regard to at least the Appellant's independent claim 1, the Appellant respectfully submits that dependent claim 2 is also not rendered obvious and is allowable for at least the reasons stated above with respect to independent claim 1. The Appellant further submits that Boyce also fails to teach, suggest or anticipate the Appellant's claim 1 further limited by "wherein said video segment contains at least one introductory predictive picture and said converting step further comprises the step of selectively decoding a

predetermined number of said introductory predictive pictures to obtain a properly decoded predictive picture" as recited in claim 2.

That is, and for at least the same reasons provided in Section A above, at least because Boyce fail to teach, suggest or anticipate at least a method and system for recording a video segment onto a storage medium including at least "selectively converting said at least one predictive picture into an intra picture thereby replacing said at least one predictive picture with said intra picture in said video segment" as taught in the Appellant's Specification and claimed in at least the Appellant's claim 1, the Appellant respectfully submits that Boyce also fail to teach, suggest or anticipate the Appellant's invention as claimed in dependent claim 2, which depends directly from independent claim 1.

Therefore, the Appellant submits that claim 2, as it now stands, fully satisfies the requirements of 35 U.S.C. § 102 and is patentable thereunder.

C. 35 U.S.C. § 102 - Claim 3

Claim 3 depends directly from claim 2 which depends directly from independent claim 1 and recites further technical features thereof. At least because teachings of Boyce fail to teach, suggest or anticipate the invention of the Appellant with regard to at least the Appellant's independent claim 1 and dependent claim 2, the Appellant respectfully submits that dependent claim 3 is also not rendered obvious and is allowable for at least the reasons stated above with respect to independent claim 1 and dependent claim 2. The Appellant further submits that Boyce also fail to teach, suggest or anticipate the Appellant's claims 1 and 2 further limited by "wherein said predetermined number is based in part on the amount of said intra macroblocks in said introductory predictive pictures" as recited in claim 3.

That is, and for at least the same reasons provided in Sections A and B above, at least because Boyce fail to teach, suggest or anticipate at least a method and system for recording a video segment onto a storage medium including at least "selectively converting said at least one predictive picture into an intra picture thereby replacing said at least one predictive picture with said intra picture in said

video segment" as taught in the Appellant's Specification and claimed in at least the Appellant's claim 1, and as further limited by the technical features of claim 2, the Appellant respectfully submits that Boyce also fail to teach, suggest or anticipate the Appellant's invention as claimed in dependent claim 3, which depends directly from claim 2 and indirectly from independent claim 1.

Therefore, the Appellant submits that claim 3, as it now stands, fully satisfies the requirements of 35 U.S.C. § 102 and is patentable thereunder.

D. 35 U.S.C. § 102(b) - Claim 4

Claim 4 depends directly from claim 2 which depends directly from independent claim 1 and recites further technical features thereof. At least because teachings of Boyce fail to teach, suggest or anticipate the invention of the Appellant with regard to at least the Appellant's independent claim 1 and dependent claim 2, the Appellant respectfully submits that dependent claim 4 is also not rendered obvious and is allowable for at least the reasons stated above with respect to independent claim 1 and dependent claim 2. The Appellant further submits that Boyce also fail to teach, suggest or anticipate the Appellant's claims 1 and 2 further limited by "wherein said video segment contains at least one subsequent predictive picture and said converting step further comprises the steps of: selectively decoding said subsequent predictive pictures; and selectively re-encoding into intra pictures predictive pictures selected from the group comprising said subsequent predictive pictures or said introductory predictive pictures" as recited in claim 4.

That is, and for at least the same reasons provided in Sections A and B above, at least because Boyce fail to teach, suggest or anticipate at least a method and system for recording a video segment onto a storage medium including at least "selectively converting said at least one predictive picture into an intra picture thereby replacing said at least one predictive picture with said intra picture in said video segment" as taught in the Appellant's Specification and claimed in at least the Appellant's claim 1, and as further limited by the technical features of claim 2, the Appellant respectfully submits that Boyce also fail to teach, suggest or anticipate the

Appellant's invention as claimed in dependent claim 4, which depends directly from claim 2 and indirectly from independent claim 1.

Therefore, the Appellant submits that claim 4, as it now stands, fully satisfies the requirements of 35 U.S.C. § 102 and is patentable thereunder.

E. 35 U.S.C. § 102(b) - Claim 5

Claim 5 depends directly from independent claim 1 and recites further technical features thereof. At least because teachings of Boyce fail to teach, suggest or anticipate the invention of the Appellant with regard to at least the Appellant's independent claim 1, the Appellant respectfully submits that dependent claim 5 is also not rendered obvious and is allowable for at least the reasons stated above with respect to independent claim 1. The Appellant further submits that Boyce also fails to teach, suggest or anticipate the Appellant's claim 1 further limited by "wherein said video segment is an MPEG video segment that does not contain any intra pictures" as recited in claim 5.

That is, and for at least the same reasons provided in Section A above, at least because Boyce fail to teach, suggest or anticipate at least a method and system for recording a video segment onto a storage medium including at least "selectively converting said at least one predictive picture into an intra picture thereby replacing said at least one predictive picture with said intra picture in said video segment" as taught in the Appellant's Specification and claimed in at least the Appellant's claim 1, the Appellant respectfully submits that Boyce also fail to teach, suggest or anticipate the Appellant's invention as claimed in dependent claim 5, which depends directly from independent claim 1.

Therefore, the Appellant submits that claim 5, as it now stands, fully satisfies the requirements of 35 U.S.C. § 102 and is patentable thereunder.

F. 35 U.S.C. § 102(b) - Claim 6

Claim 6 is an independent claim that recites similar relevant features as recited in the Appellant's independent claim 1. More specifically, claim 6 claims a



system for recording onto a storage medium a video segment including "a receiver for receiving said video segment, wherein said video segment contains at least one predictive picture containing intra macroblocks" and "a video processor programmed to selectively convert said at least one predictive picture into an intra picture thereby replacing said at least one predictive picture with said intra picture in said video segment".

As described in section A above, the teachings of Boyce fail to teach, suggest or anticipate at least a method and system for recording a video segment onto a storage medium including at least "selectively converting said at least one predictive picture into an intra picture thereby replacing said at least one predictive picture with said intra picture in said video segment" as taught in the Appellant's Specification and claimed in at least the Appellant's claim 1 and as similarly claimed in the Appellant's independent claim 6. That is, the Appellant respectfully submits that independent claim 6 is also not rendered obvious by Boyce and is allowable for at least the reasons stated above with respect to independent claim 1.

Therefore, the Appellant submits that claim 6, as it now stands, fully satisfies the requirements of 35 U.S.C. § 102 and is patentable thereunder.

G. 35 U.S.C. § 102(b) - Claim 7

Claim 7 depends directly from independent claim 6 and recites further technical features thereof. At least because teachings of Boyce fail to teach, suggest or anticipate the invention of the Appellant with regard to at least the Appellant's independent claim 6, the Appellant respectfully submits that dependent claim 7 is also not rendered obvious and is allowable for at least the reasons stated above with respect to independent claim 6. The Appellant further submits that Boyce also fails to teach, suggest or anticipate the Appellant's claim 6 further limited by "wherein said video segment contains at least one introductory predictive pictures and said video processor is further programmed to selectively decode a predetermined number of said introductory predictive pictures to obtain a properly decoded predictive picture" as recited in claim 7.

That is, and for at least the same reasons provided in Sections A and F above, at least because Boyce fail to teach, suggest or anticipate at least a method and system for recording a video segment onto a storage medium including at least "selectively converting said at least one predictive picture into an intra picture thereby replacing said at least one predictive picture with said intra picture in said video segment" as taught in the Appellant's Specification and claimed in at least the Appellant's claims 1 and 6, the Appellant respectfully submits that Boyce also fail to teach, suggest or anticipate the Appellant's invention as claimed in dependent claim 7, which depends directly from independent claim 6.

Therefore, the Appellant submits that claim 7, as it now stands, fully satisfies the requirements of 35 U.S.C. § 102 and is patentable thereunder.

H. 35 U.S.C. § 102(b) - Claim 8

Claim 8 depends directly from claim 7 which depends directly from independent claim 6 and recites further technical features thereof. At least because teachings of Boyce fail to teach, suggest or anticipate the invention of the Appellant with regard to at least the Appellant's independent claim 6 and dependent claim 7, the Appellant respectfully submits that dependent claim 8 is also not rendered obvious and is allowable for at least the reasons stated above with respect to independent claim 6 and dependent claim 7. The Appellant further submits that Boyce also fail to teach, suggest or anticipate the Appellant's claims 6 and 7 further limited by "wherein said predetermined number is based in part on the amount of said intra macroblocks in said introductory predictive pictures" as recited in claim 8.

That is, and for at least the same reasons provided in Sections A, F and G above, at least because Boyce fail to teach, suggest or anticipate at least a method and system for recording a video segment onto a storage medium including at least "selectively converting said at least one predictive picture into an intra picture thereby replacing said at least one predictive picture with said intra picture in said video segment" as taught in the Appellant's Specification and claimed in at least the Appellant's claim 6, and as further limited by the technical features of claim 7,

the Appellant respectfully submits that Boyce also fail to teach, suggest or anticipate the Appellant's invention as claimed in dependent claim 8, which depends directly from claim 6 and indirectly from independent claim 7.

Therefore, the Appellant submits that claim 8, as it now stands, fully satisfies the requirements of 35 U.S.C. § 102 and is patentable thereunder.

I. 35 U.S.C. § 102(b) - Claim 9

Claim 9 depends directly from claim 7 which depends directly from independent claim 6 and recites further technical features thereof. At least because teachings of Boyce fail to teach, suggest or anticipate the invention of the Appellant with regard to at least the Appellant's independent claim 6 and dependent claim 7, the Appellant respectfully submits that dependent claim 9 is also not rendered obvious and is allowable for at least the reasons stated above with respect to independent claim 6 and dependent claim 7. The Appellant further submits that Boyce also fail to teach, suggest or anticipate the Appellant's claims 6 and 7 further limited by "wherein said video segment contains at least one subsequent predictive picture and said video processor is further programmed to selectively decode said subsequent predictive pictures and selectively re-encode into intra pictures predictive pictures selected from the group comprising said subsequent predictive pictures or said introductory predictive pictures" as recited in claim 9.

That is, and for at least the same reasons provided in Sections A, F and G above, at least because Boyce fail to teach, suggest or anticipate at least a method and system for recording a video segment onto a storage medium including at least "selectively converting said at least one predictive picture into an intra picture thereby replacing said at least one predictive picture with said intra picture in said video segment" as taught in the Appellant's Specification and claimed in at least the Appellant's claim 6, and as further limited by the technical features of claim 7, the Appellant respectfully submits that Boyce also fail to teach, suggest or anticipate the Appellant's invention as claimed in dependent claim 9, which depends directly from claim 6 and indirectly from independent claim 7.

Therefore, the Appellant submits that claim 9, as it now stands, fully satisfies the requirements of 35 U.S.C. § 102 and is patentable thereunder.

J. 35 U.S.C. § 102(b) - Claim 10

Claim 10 depends directly from independent claim 6 and recites further technical features thereof. At least because teachings of Boyce fail to teach, suggest or anticipate the invention of the Appellant with regard to at least the Appellant's independent claim 6, the Appellant respectfully submits that dependent claim 10 is also not rendered obvious and is allowable for at least the reasons stated above with respect to independent claim 6. The Appellant further submits that Boyce also fails to teach, suggest or anticipate the Appellant's claim 6 further limited by "wherein said video segment is an MPEG video segment that does not contain any intra pictures" as recited in claim 10.

That is, and for at least the same reasons provided in Sections A and F above, at least because Boyce fail to teach, suggest or anticipate at least a method and system for recording a video segment onto a storage medium including at least "selectively converting said at least one predictive picture into an intra picture thereby replacing said at least one predictive picture with said intra picture in said video segment" as taught in the Appellant's Specification and claimed in at least the Appellant's claim 6, the Appellant respectfully submits that Boyce also fails to teach, suggest or anticipate the Appellant's invention as claimed in dependent claim 10, which depends directly from independent claim 6.

Therefore, the Appellant submits that claim 10, as it now stands, fully satisfies the requirements of 35 U.S.C. § 102 and is patentable thereunder.

**Conclusion**

Thus, the Appellant submits that none of the claims presently in the application are anticipated under the provisions of 35 U.S.C. § 102. Consequently, the Appellant believes all these claims are presently in condition for allowance.

For at least the reasons advanced above, the Appellant respectfully urges that the rejections of claims 1-10 as being anticipated under 35 U.S.C. §102 are improper. Reversal of the rejections in this Appeal is respectfully requested.

Respectfully submitted,

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Date

Jorge T. Villabon  
Jorge Tony Villabon,  
Attorney for the Appellant  
Registration No. 52,322  
(609) 734-6445

Patent Operations  
Thomson Licensing  
P.O. Box 5312  
Princeton, New Jersey 08543-5312

## CLAIMS APPENDIX

1. (Previously Presented) A method of recording onto a storage medium a video segment, comprising the steps of:

receiving said video segment, wherein said video segment contains at least one predictive picture containing intra macroblocks; and

selectively converting said at least one predictive picture into an intra picture thereby replacing said at least one predictive picture with said intra picture in said video segment.

2. (Original) The method according to claim 1, wherein said video segment contains at least one introductory predictive picture and said converting step further comprises the step of selectively decoding a predetermined number of said introductory predictive pictures to obtain a properly decoded predictive picture.

3. (Previously Presented) The method according to claim 2, wherein said predetermined number is based in part on the amount of said intra macroblocks in said introductory predictive pictures.

4. (Original) The method according to claim 2, wherein said video segment contains at least one subsequent predictive picture and said converting step further comprises the steps of:

selectively decoding said subsequent predictive pictures; and

selectively re-encoding into intra pictures predictive pictures selected from the group comprising said subsequent predictive pictures or said introductory predictive pictures.

5. (Previously Presented) The method according to claim 1, wherein said video segment is an MPEG video segment that does not contain any intra pictures.

6. (Previously Presented) A system for recording onto a storage medium a video segment comprising:

a receiver for receiving said video segment, wherein said video segment contains at least one predictive picture containing intra macroblocks; and

a video processor programmed to selectively convert said at least one predictive picture into an intra picture thereby replacing said at least one predictive picture with said intra picture in said video segment.

7. (Original) The system according to claim 6, wherein said video segment contains at least one introductory predictive pictures and said video processor is further programmed to selectively decode a predetermined number of said introductory predictive pictures to obtain a properly decoded predictive picture.

8. (Previously Presented) The system according to claim 7, wherein said predetermined number is based in part on the amount of said intra macroblocks in said introductory predictive pictures.

9. (Previously Presented) The system according to claim 7, wherein said video segment contains at least one subsequent predictive picture and said video processor is further programmed to selectively decode said subsequent predictive pictures and selectively re-encode into intra pictures predictive pictures selected from the group comprising said subsequent predictive pictures or said introductory predictive pictures.

10. (Previously Presented) The system according to claim 6, wherein said video segment is an MPEG video segment that does not contain any intra pictures.

### **EVIDENCE APPENDIX**

Appellant asserts that there is no evidence to be submitted in accordance with this section.



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### **RELATED PROCEEDINGS APPENDIX**

Appellant asserts that there are no copies of decisions to be submitted in accordance with this section.